There is an extensive literature on productivity levels and convergence between countries and firms. One theoretical idea underlying convergence is knowledge spillovers. If knowledge is a public good, companies below the frontier can potentially improve performance by learning from others on the frontier, subject of course to various constraints affecting the process. Investigation of these issues typically proceeds by using country or country-industry data and identify a frontier industry *I* in a country, *A*, and then see if industry *I*'s productivity growth in country *B* is related to the productivity "gap" between A(I) and B(I).

A major problem with this literature is that industries have a wide dispersion of productivity within them. Cross-country regressions will look at the convergence of the country average to the US average (say). Whilst these averages are interesting, they likely hide very interesting underlying learning and convergence dynamics. For example, it seems unlikely that the best EU firms are learning from the average US firm; more likely they are learning from the leading US firms, or conceivably, the leading US firms are learning from the best EU firms. Indeed, quite apart from productivity growth, it would be interesting to know just as a matter of data for which industries particular countries have leadership. Country or country-industry data cannot tell us this.

To investigate these issues we clearly need micro data for all (potentially relevant) countries. Using cross-country micro data we can first measure where the global frontier is. We can then use single country micro data construct distances of each firm from both the global and national frontier and see how productivity growth of the firms is influenced, if at all, by these two distances.

Up until now, such international micro company data has not been available. The innovative contributions of this paper, we believe, are therefore threefold. First, we assembled micro data for as many countries as possible, converted them into internationally comparable measures and calculated the spreads of productivity for each country-industry and thereby identify the productivity level of frontier firms. Second, we measure, using micro productivity data for a particular country, the distance of each firm to both the global and national frontiers. Third, we then look to see if firms converge to the national or the global frontier, or a combination of both, and what affects whether they do so.